

DECLE116.001APC



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : D'Haes, Wim

Appl. No. : 10/581,141

Filed : May 31, 2006

For : HIGHLY OPTIMIZED NONLINEAR  
LEAST SQUARES METHOD FOR  
SINUSOIDAL SOUND MODELLING

Examiner : Unknown

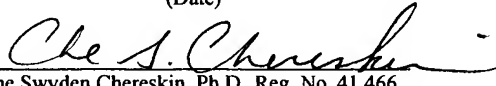
Group Art Unit 2626

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

March 8, 2007

(Date)

  
Che Swyden Chereskin, Ph.D., Reg. No. 41,466

REQUEST FOR CORRECTED FILING RECEIPT

Commissioner for Patents  
P.O. Box 1450  
Office of Initial Patent Examination  
Customer Service Center  
Alexandria, VA 22313-1450

Dear Sir:

Applicants hereby request that the Official Filing Receipt, a copy of which is enclosed, be corrected to reflect the true spelling of the inventor's city of residence. The correct spelling is EDEGEM, not Edegen. Also, Application PCT/BE03/00207, filed on December 1, 2003, should be added to the Filing Receipt as a Foreign Applications priority. Supporting document is provided herewith.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 8, 2007

By: 

Che Swyden Chereskin, Ph.D.

Registration No. 41,466

Agent of Record

Customer No. 20,995

(949) 760-0404



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO
10/581,141	05/31/2006	2626	630	DECL116.001APC

CONFIRMATION NO. 1976

## FILING RECEIPT

20995  
KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA92614

Date Mailed: 03/05/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Wim D'Haes, Hasselt, BELGIUM;

s/b EDEGEN

## Assignment For Published Patent Application

ANTWERP INNOVATION CENTER N.V., ~~EDEGEN~~, BELGIUMPower of Attorney: The patent practitioners associated with Customer Number 20995

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/EP04/13630 12/01/2004

## Foreign Applications

s/b PCT/BE03/00207 December 1, 2003

If Required, Foreign Filing License Granted: 02/21/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is  
**US10/581,141**

Projected Publication Date: 05/31/2007

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

## Title

Highly optimized nonlinear least squares method for sinusoidal sound modelling

## Preliminary Class

607

### PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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#### Title 35, United States Code, Section 184

#### Title 37, Code of Federal Regulations, 5.11 & 5.15

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No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

# ASSIGNMENT

PATENT

WHEREAS, I/WE (1) Wim D'Haes, a Belgian citizen, residing at Maastrichtersteenweg 223/2, B-3500 Hasselt, Belgium, hereinafter referred to as Assignor (collectively if more than one inventor is listed above), have invented certain new and useful improvements in A HIGHLY OPTIMIZED NONLINEAR LEAST SQUARES METHOD FOR SINUSOIDAL SOUND MODELING, the specification of which:

- (a) ☐ was executed on even date herewith;
- (b) ☐ was filed on \_\_\_\_\_ as o Application No. 0 / \_\_\_\_\_ or o Express Mail No., as Application No. not yet known \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable); or
- (c) ☒ was described and claimed in PCT International Application No. PCT/EP2004/013630 filed on December 1, 2004 and as amended under PCT Article 19 on October 3 2005 (if any) and/or under PCT Article 34 on \_\_\_\_\_ (if any).

AND WHEREAS, AIC, with its principal place of business at Drie Eikenstraat 661, B-2650 Edegem, Belgium, (hereinafter referred to as Assignee) desires to acquire the entire right, title, and interest in and to the said improvements with respect to the United States of America, its territories and possessions.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor hereby acknowledges that it has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title, and interest in the United States of America, and its territories and possessions in, to and under said improvements, and any Patent Applications in the United States of America and all divisions, renewals and continuations thereof, and all Patents of the United States of America which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions; and Assignor hereby authorizes and requests the Commissioner of Patents of the United States of America to issue all Patents for said improvements to Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR HEREBY covenants and agrees that it will communicate to Assignee, its successors, legal representatives and assigns, any facts known to it respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in the United States of America.

IN TESTIMONY WHEREOF, Assignor intending to be legally bound has hereunto affixed its signature.

This 26 day of JUNE, 2006

\_\_\_\_\_  
Signature of Wim D'Haes

Witnessed by:

\_\_\_\_\_  
Philip Hendrickx

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	D'Haes, Wim
Int'l Appl. No.	:	PCT/EP2004/013630
Int'l filing date	:	December 1, 2004
For	:	A HIGHLY OPTIMIZED NONLINEAR LEAST SQUARES METHOD FOR SINUSOIDAL SOUND MODELLING
Examiner	:	unknown
Group Art Unit	:	unknown

## PRELIMINARY AMENDMENT

**Mail Stop Amendment**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Preliminary to examination on the merits, please amend the above-captioned U.S. application as follows.

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 3 of this paper.

**Remarks/Arguments** begin on page 11 of this paper.

## AMENDMENTS TO THE SPECIFICATION

*On page 1 of the Specification, after the Title of the Invention, please insert the following section:*

### RELATED APPLICATIONS

This application is the U.S. National Phase under 35 U.S.C. § 371 of International Application PCT/EP2004/013630, filed December 1, 2004 which claims priority to PCT/BE03/00207, filed December 1, 2003.

*On page 42 before Claim 1, please amend as follows:*

WHAT IS CLAIMED IS: CLAIMS

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number  
**WO 2005/055202 A1**

(51) International Patent Classification<sup>7</sup>: **G10L 19/02**

[BE/BE]; Maastrichtersteenweg 223/2, B-3500 Hasselt (BE).

(21) International Application Number:  
PCT/EP2004/013630

(74) Agent: **BRANTS, Johan, Philippe**, Emi; De Clercq Brants & Partners, E. Gevaertdreef 10a, B-9830 Sint-Martens-Latem (BE).

(22) International Filing Date: 1 December 2004 (01.12.2004)

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:  
PCT/BE03/00207  
1 December 2003 (01.12.2003) BE

(71) Applicant (for all designated States except US): **AIC**  
[BE/BE]; Drie Eikenstraat 661, B-2650 Edegem (BE).

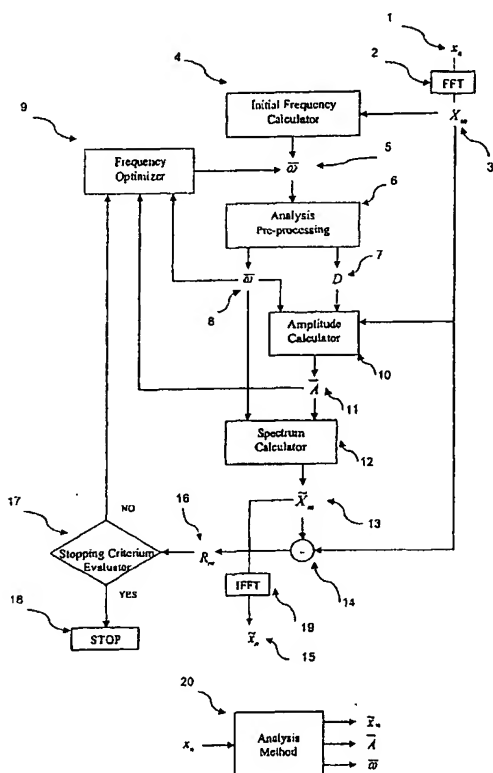
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

(72) Inventor; and

(75) Inventor/Applicant (for US only): **D'HAES, Wim**

[Continued on next page]

(54) Title: A HIGHLY OPTIMIZED NONLINEAR LEAST SQUARES METHOD FOR SINUSOIDAL SOUND MODELLING



(57) Abstract: The present invention relates to a method for modelling, i.a. analyzing and/or synthesizing, a windowed signal such as sound or speech signals, by computing the frequencies and complex amplitudes from the signal using a nonlinear least squares method, whereby the computational complexity is reduced by taking into account the bandlimited property of a window.

WO 2005/055202 A1